ORDER NO. GAD8602509C1
A1

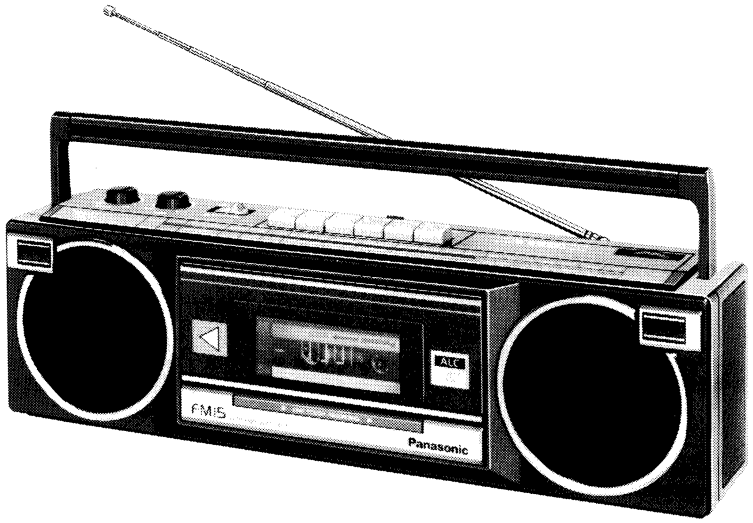
Service Manual

Radio Cassette

RX-FM15

(Black)

FM-AM-FM Stereo Cassette Recorder



This is the Service Manual for the following areas.

M ···For U.S.A.

C ···For Canada.

RX-FM25 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement:	AC; 120V, 60Hz Battery; 9V (Six "D" Size Flashlight Batteries) (Panasonic UM-1 or equivalent)
Power Consumption:	13W (AC only)
Power Output:	7W (3.5W×2)...RMS (max.)
Speaker:	4" (10cm) PM Dynamic Speaker (3Ω)
Output:	Headphones; 32Ω, φ3.5
Dimensions:	$16^{13}/_{16}$"(W)×$5^{5}/_{16}$"(H)×$4^{5}/_{8}$"(D) (428×135×118)mm
Weight:	4 lb. 7 oz (2kg) without batteries

Radio Section:

Radio Frequency Range:	FM; 88~108MHz AM; 525~1610kHz
Intermediate Frequency:	FM; 10.7MHz AM; 455kHz
Sensitivity:	FM; 3μV/50mW output (−3dB Limit) AM; 140μV/m/50mW output

Tape Deck Section:

Frequency Response:	90~8,000Hz (with normal tape)
Recording System:	DC bias, Magnet erase
Tape Speed:	$1^{7}/_{8}$ ips (4.8cm/s)
Track System:	4-track 2 channel stereo recording and playback

Weights and dimensions shown are approximate.
(Les poids et dimensions mentionnes sont approximatifs.)
Design and specifications are subject to change without notice.

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SAFETY PRECAUTIONS (For U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, sheilds, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

INSULATION RESISTANCE TEST (For U.S.A.)

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads, antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts*. (Fig. 1) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. 2)
   * **Note:** Some exposed parts may be isolated from the chassis by design. These will read infinity.
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

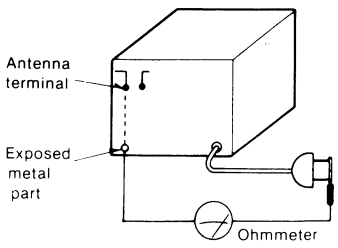


Fig. 1

Resistance = 3MΩ—5.2MΩ

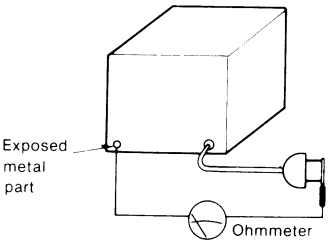
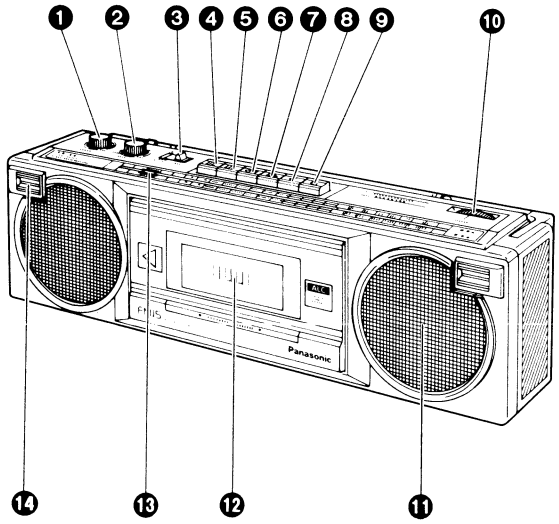
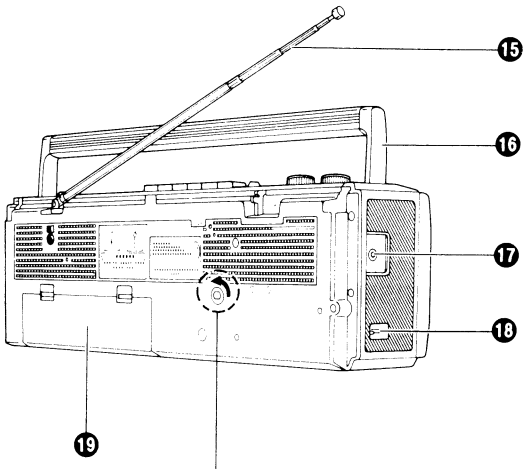


Fig. 2

Resistance = Approx ∞

LOCATION OF CONTROLS AND COMPONENTS





When the tape is caught in the pinch roller, etc. Release the tape by turning the pulley on the motor with the screwdriver in the direction of the arrow.

❶ Volume Control (VOLUME)
❷ Tone Control (TONE)
❸ Function Selector (SELECTOR)
❹ Pause Button (▯▯ PAUSE)
❺ Stop/Eject Button (□⏏ STOP/EJECT)
❻ Fast Forward Button (⟪ FF)
❼ Rewind Button (⟫ REWIND)
❽ Playback Button (▷ PLAY)
❾ Record Button (● RECORD)
❿ Tuning Control (TUNING)
⓫ Speakers (10cm) (3Ω)
⓬ Cassette Compartment
⓭ FM Stereo Indicator (FM STEREO)
⓮ Built-in Microphone (MIC)
⓯ Telescopic Antenna
⓰ Handle
⓱ Headphones Jack (PHONES) (φ3.5) (32Ω)
⓲ AC Socket (AC IN~)
⓳ Battery Compartment

BATTERY SERVICE LIFE

UM-1 (C size) Batteries
Approx. 12 hours of recording (EIAJ)
Approx. 8 hours of playback (EIAJ) with volume set at 8.5 position

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

DISASSEMBLY INSTRUCTIONS

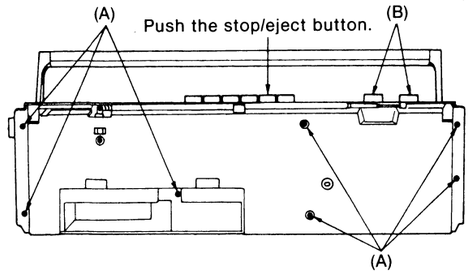


Fig. 1

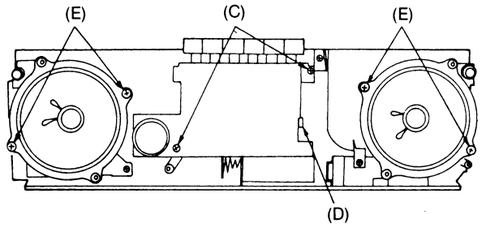


Fig. 2

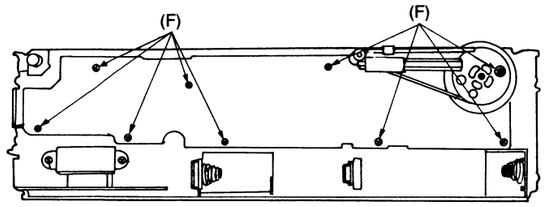


Fig. 3

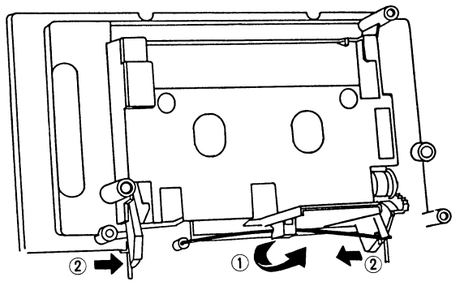


Fig. 4

Ref No.	Shown in Fig. —.	To remove —.	Remove —.
1	——	Front Cabinet Ass'y	Remove the battery cover.
2	1		Screw (3×35) mm .....(A)×7
3			Knob .....(B)×2
4			Push the stop/eject button.
5	2	Mechanism Unit	Screw (3×12) mm .....(C)×2
6			Pull out the 3 pin socket (CP2) .....(D)×1
7	2	Speakers	Screw (3×12) mm .....(E)×4
8	3	Main Circuit Board	Screw (3×12) mm .....(F)×9
9	4	Cassette Compartment	Remove the spring direction of arrow ①.
10			Remove the rib direction of arrow ②.

■ HOW TO FIX THE MOTOR

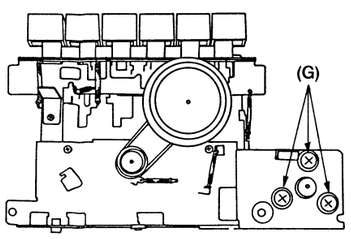


Fig. 5

• Remove the 3 screws (G).

■ HOW TO FIX THE FLYWHEEL ASS'Y

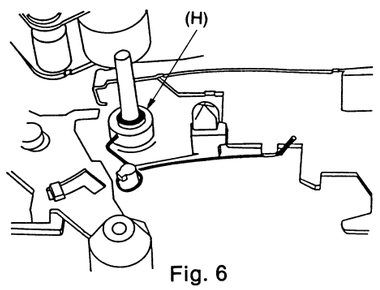


Fig. 6

(1) Remove the washer (H).

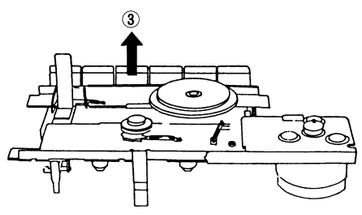
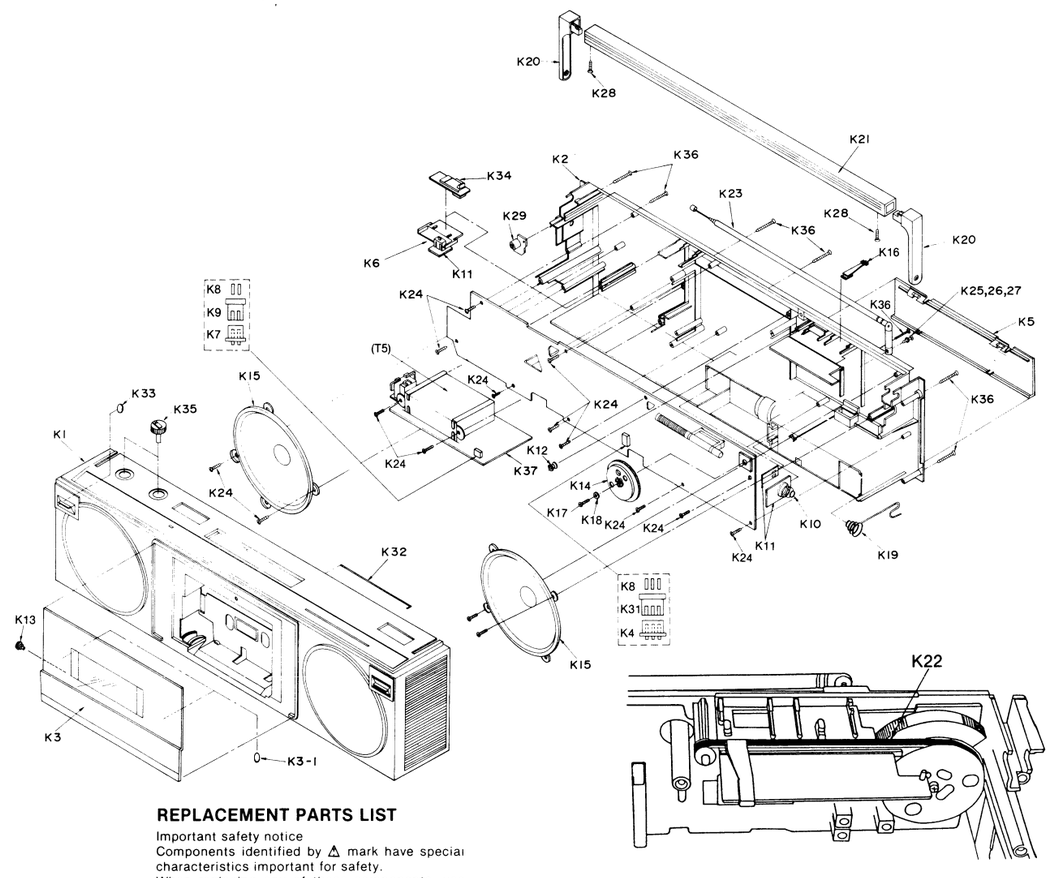


Fig. 7

(2) Pull out the flywheel ass'y direction of arrow ③.

CABINET PARTS LOCATION



REPLACEMENT PARTS LIST

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

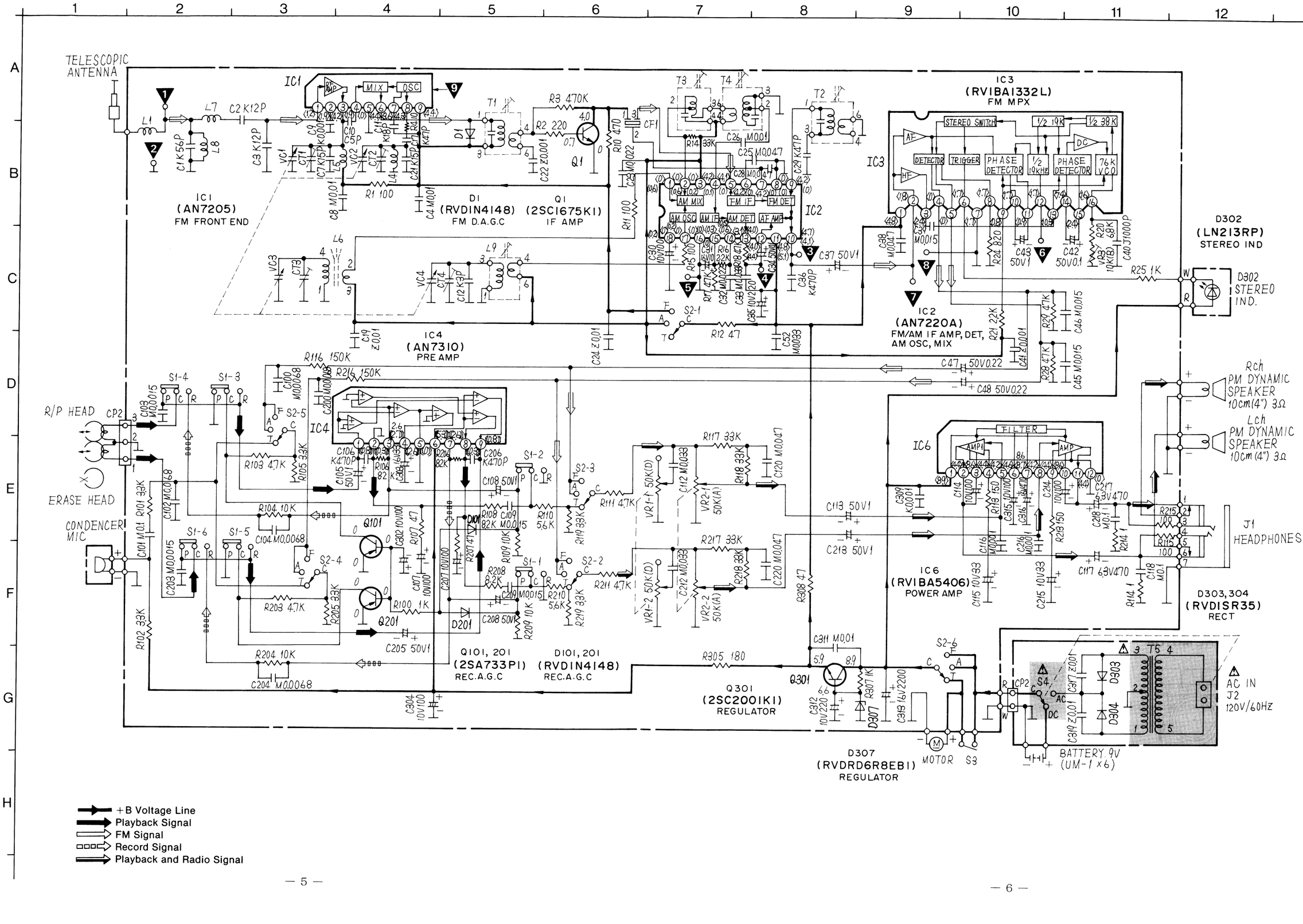
• mark stand for that the parts are supplied in MESA.

Ⓜ ... For U.S.A.
Ⓒ ... For Canada.

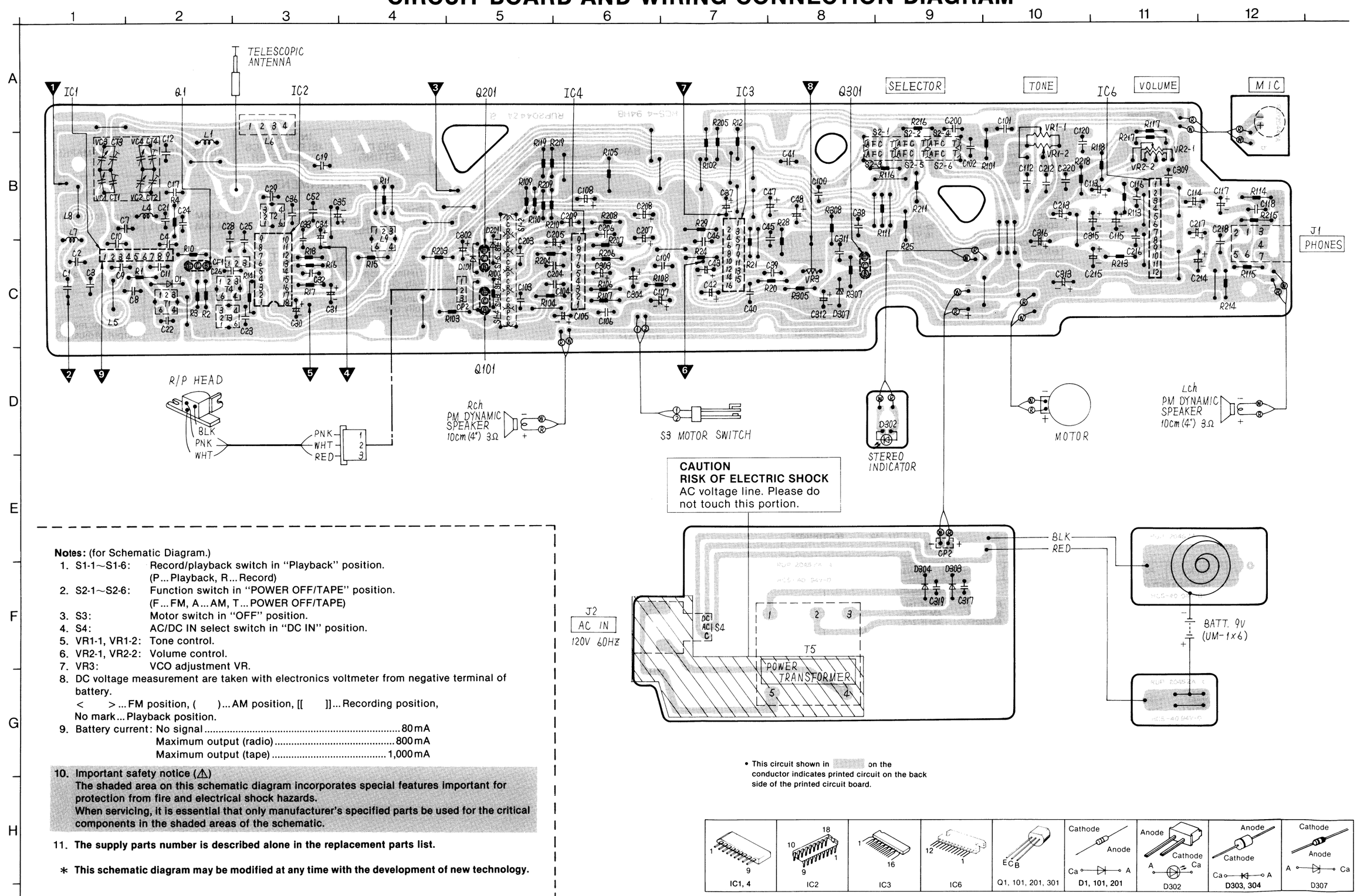
Ref. No.	Part No.	Part Name & Description
		CABINET PARTS
•K 1	**RYMXFM15M**	Front Cabinet Ass'y
•K 2 [M] [For U.S.A.]	**RYFXFM15M**	Rear Cabinet Ass'y
•K 2 [C] [For Canada.]	**RYFXFM15MC**	Rear Cabinet Ass'y
•K 3	**RYQXFM15M**	Cassette Compartment Ass'y
•K 3-1	**RUS527Z**	Spring (Cassette)
K 4	**RJP3G4Y**	Pulg, 3 Pin (CP1)
•K 5	**RYNXFM15M**	Battery Compartment Ass'y
•K 6	**RME400Z**	Holder, LED
K 7	**RJP2G4Y**	Plug, 2 Pin (CS2)
K 8	**RJT707Z**	Terminal, Socket
K 9	**RJS2L3Z**	Socket, 2 Pin (CS2)
K 10	**RJC610Z**	Spring, Battery (−)
•K 11	**RUP2044Z**	P.C.B (LED, Battery)
•K 12	**RDR72Z**	Pulley, Dial Belt
K 13	**RDG5782Z**	Gear, Cassette Compartment
•K 14	**RBN733Z1**	Knob, Tuning
K 15	**RAS10P17Z**	Speaker
•K 16	**RDP306Z**	Dial Pointer
K 17	**XSN26+8**	Screw (Tuning Knob M'tg)
K 18	**XWA26B**	Washer (Tuning Knob M'tg)
•K 19	**RJC91003Z**	Spring (Battery (+/−))
•K 20	**RKX347Z**	Arm, Handle
•K 21	**RKX331Z**	Handle
•K 22	**RDV40Z**	Belt, Dial
K 23	**XEARR225EAY**	Telescopic Antenna
K 24	**XTV3+12G**	Screw (Main P.C.B M'tg)
K 25	**XSN3+25BNS**	Screw (Telescopic Antenna M'tg)
K 26	**XWA3BFN**	Washer (Telescopic Antenna M'tg)
K 27	**XWG3FN**	Washer (Telescopic Antenna M'tg)
K 28	**XTC3+8CFZ**	Screw (Handle Arm M'tg)
•K 29	**WM034B7Z202**	Condenser Mic
K 31	**RJS3L3Z**	Socket, 3 Pin (CS1)
•K 32	**RUS534Y**	Spring (Cassette) Compartment
•K 33	**RHG720W**	Rubber, Mic
•K 34	**RBD371Z1**	Knob, Function Selector
•K 35	**RBN670X3**	Knob, Volume, Tone
K 36	**XTN3+35GFZ**	Screw (Front Cabinet M'tg)
•K 37	**RUP2045Z**	P.C.B (Power Transformer)
		ACCESSORIES
•A 1 [M] [For U.S.A.]	**RQX4725Z**	Operating Instruction
•A 1 [C] [For Canada.]	**RQX4768Z**	Operating Instruction
A 2 [M] [For U.S.A.]	**RJA22X**	AC Cord ⚠
A 2 [C] [For Canada.]	**RJA22Y**	AC Cord ⚠
		PACKINGS
•P 1 [M] [For U.S.A.]	**RPK2215ZA**	Gift Box
•P 1 [C] [For Canada.]	**RPK2308Z**	Gift Box
•P 2	**XZB55X35A02**	Poly Bag
•P 3	**RPN9524Z**	Pad

▼ Be sure to fold at the (▼) mark so that mark is on the outside.

SCHEMATIC DIAGRAM



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



Notes: (for Schematic Diagram.)

1. S1-1~S1-6: Record/playback switch in "Playback" position. (P...Playback, R...Record)
2. S2-1~S2-6: Function switch in "POWER OFF/TAPE" position. (F...FM, A...AM, T...POWER OFF/TAPE)
3. S3: Motor switch in "OFF" position.
4. S4: AC/DC IN select switch in "DC IN" position.
5. VR1-1, VR1-2: Tone control.
6. VR2-1, VR2-2: Volume control.
7. VR3: VCO adjustment VR.
8. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
   < > ...FM position, ( ) ...AM position, [[ ]] ...Recording position,
   No mark...Playback position.
9. Battery current: No signal 80mA
   Maximum output (radio) 800mA
   Maximum output (tape) 1,000mA
10. **Important safety notice (⚠)**
    The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards.
    When servicing, it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.
11. **The supply parts number is described alone in the replacement parts list.**

* **This schematic diagram may be modified at any time with the development of new technology.**

• This circuit shown in ▭ on the conductor indicates printed circuit on the back side of the printed circuit board.

ELECTRICAL PARTS LIST

Numbering System of Resistor

Example

ERD	25	F	J	101	
Type	Wattage	Shape	Tolerance	Value (100Ω)	
ERX	2	AN	J	2R2	
Type	Wattage	Shape	Tolerance	Value (2.2Ω)	

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F	
Type	Voltage	Value (1000 pF)	Tolerance	Peculiarity	
ECEA	50	M	R47		
Type	Voltage	Peculiarity	Value (0.47 μF)		

Resistor Type	Wattage Tolerance
ERD: Carbon ERG: Metal Film ERX: Metal Film ERQ: Fuse Type Metal RRD: Carbon (Chip Type)	10 : 1/8 W J : ±5% 12 : 1/2 W 25 : 1/4 W 1 : 1 W 18 : 1/8 W

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA: Electrolytic ECCD: Ceramic ECKD: Ceramic ECQM: Polyyester ECQP: Polyproylene ECET: Electrolytic ECEA□□□N: Non Polar Electrolytic QCU □: Ceramic (Chip Type) ECUX: Ceramic (Chip Type)	0J : 6.3 V 1A : 10 V 1C : 16 V 1E : 25 V 1H : 50 V 1V : 35 V 50 : 50 V 25 : 25 V 16 : 16 V	2H : 500 V DC 1 : 100 V DKC : 400 V AC	C : ±0.25 pF J : ±5% K : ±10% Z : +80%, −20% P : +100%, −0%

REPLACEMENT PARTS LIST

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

• mark stand for that the parts are supplied in MESA.

Ref. No.	Part No.
RESISTORS	
R 1, 11, 15, 115, 215	ERD25FJ101
R 2	ERD25FJ221
R 3	ERD25TJ474
R 4	ERD25FJ100
R 10	ERD25FJ471
R 12, 107, 207, 308	ERD25FJ470
R 14, 117, 118, 217, 218	ERD25TJ333
R 16, 21	ERD25FJ222
R 17	ERD25TJ473
R 18, 28, 29, 103, 111, 203, 211	ERD25FJ472
R 20	ERD25FJ682
R 24	ERD25FJ821
R 25, 100, 307	ERD25FJ102
R 101, 102, 105, 119, 205, 219	ERD25FJ332
R 104, 109, 204, 209	ERD25FJ103
R 106, 206	ERD25TJ823
R 108, 208	ERD25FJ822
R 110, 210	ERD25FJ562
R 113, 213	ERD25FJ151
R 114, 214	ERD25FJ1R0
R 116, 216	ERD25TJ154
R 305	ERD25FJ181

Ref. No.	Part No.
CAPACITORS	
C 1	ECCD1H560KC
C 2, 3	ECCD1H120KC
C 4, 8, 311	ECKD1H103MD
C 7, 21	ECCD1H150KC
C 9, 309	ECKD1H102KB
C 10	ECCD1H050CC
C 11	ECCD1H180KC
C 12	ECCD1H030CC
C 17, 29	ECCD1H470KC
C 19, 24	ECKD1H103ZF
C 22, 41	ECKD1H102ZF
C 23, 32	ECFT1E223MD
C 25, 28, 38, 120, 220	ECFT1E473MD
C 26	ECFT1E103MD
C 30, 107, 114, 207, 214, 302, 304, 315	ECEA1AU101
C 31	ECEA1CU100
C 33, 52, 112, 212	ECFT1E333MD
C 34, 42	ECEA1HU0R1
C 35, 312	ECEA1AU221
C 36, 106, 206	ECKD1H471KB
C 37, 43, 105, 108, 113, 205, 208, 213	ECEA1HU010
C 39, 45, 46, 109, 209	ECFT1E153MD
C 40	ECQP2A102JZ
C 47, 48	ECEA1HUR22
C 100, 104, 200, 204	ECKD1H682MD
C 101, 118, 218	ECFT1E104MD
C 102	ECFT1E683MD
C 103, 203	ECFT1E152MD
C 115, 215	ECEA1AU330
C 116, 216	ECKD1H102MD
C 117, 217	ECEA0JU471
C 303	ECEA1CU330
C 313	ECEA1CU222
C 316	ECEA1CU471
C 317, 319	ECKD1H103ZF

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS		
•IC 1	AN7205	IC (FM FRONT END)
IC 2	AN7220A	IC (FM/AM IF AMP, DET, AM OSC, MIX)
IC 3	RViBA1332L	IC (FM MPX)
IC 4	AN7310	IC (PRE AMP)
IC 6	RViBA5406	IC (POWER AMP)
TRANSISTORS		
Q 1	2SC1675K1	Transistor (IF AMP)
Q 101, 201	2SA733P1	Transistor (REC. A.G.C)
Q 301	2SC2001K1	Transistor (REGULATOR)
DIODES & RECTIFIERS		
•D 1, 101, 201	RVD1N4148	Diode (FM D.A.G.C, A.G.C)
D 302	LN213RP	LED (STEREO IND)
D 303, 304	RVD1SR35	Diode (RECT.)
D 307	RVDRD6R8EB1	Diode (REGULATOR)
COILS		
L 1, 7	RLQY30S1	Choke
L 4	RLD4Y53W	FM OSC
•L 6	RLF2V85	AM Antenna
L 9	RL02B105	AM OSC

Ref. No.	Part No.	Part Name & Description
TRANSFORMERS		
T 1, 2	RLi4B153	FM IF 1st, 2nd
T 3	RLi2B216	AM IF 1st
T 4	RLi2B217	AM IF 2nd
•T 5	RLT5K3C7A	Power Transformer ⚠
VARIABLE CAPACITORS		
VC 1, 2, 3, 4 (CT 1, 2, 3, 4)	RCV4LC2R2A	Tuning Capacitor W/Trimmer Capacitor
VARIABLE RESISTORS		
VR 1	EWCVVAF15D54	Volume Control
VR 2	EWCUVAF15A54	Tone Control
VR 3	EVNK4AA00B14	FM VCO Adjustment
CERAMIC FILTER		
CF 1	RVFSFE107MAZ	Ceramic Filter
SWITCHES		
S 1	RSS2F05Z	Record/Playback
S 2	RSS3F06Y	Band Selector
JACKS		
J 1	RJJ1A3Y	AC IN ⚠
J 2	RJJ1D27Z	Headphones

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Set volume control to maximum.
2. Set tone control to maximum.
3. Set function selector to AM or FM ST.
4. Set power source voltage to 9V DC.
5. Output of signal generator should be no higher than necessary to obtain an output reading.

■ AM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
		AM-IF ALIGNMENT					
(1)	AM	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kHz 30% Mod. at 400Hz	Point of non-interference. (on/about 600kHz)	Output meter across voice coil.	T3 (AM 1st IFT) T4 (AM 2nd IFT)	Adjust for maximum output.
		AM-RF ALIGNMENT					
(2)	AM	〃	511kHz	Tuning capacitor fully closed.	〃	L9 (AM OSC Coil)	Adjust for maximum output.
(3)	AM	〃	1,650kHz	Tuning capacitor fully open.	〃	CT4 (AM OSC Trimmer)	〃
(4)	AM	〃	550kHz	Tune to signal.	〃	(*1) L6 (AM ANT Coil)	Adjust for maximum output. Adjust L6 by moving coil bobbin along ferrite core.
(5)	AM	〃	1,500kHz	〃	〃	CT3 (AM ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).

(*1) Cement antenna bobbin with wax after completing alignment.

■ FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
		FM-IF ALIGNMENT					
(1)	FM	High side thru. 0.001μF to test point ③. Negative side to test point ②.	10.7MHz (SWP.)	Point of non-interference. (on/about 90MHz)	Connect vert. amp. of scope to test point ③. Negative side to test point ⑤.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 2.)
(2)	FM	〃	〃	〃	〃	T2 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 3.)
		FM-RF ALIGNMENT					
(3)	FM	Connect to test point ① through FM dummy antenna. Negative side to test point ②.	86.2MHz	Variable capacitor fully closed.	Output meter across voice coil.	L4 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM		109.2MHz	Variable capacitor fully open.	〃	CT2 (FM OSC Trimmer)	〃
(5)	FM		106MHz	Tune to signal.	〃	CT1 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(5).

(*2) Three output responses will be present; proper tuning is the center frequency.

■ SEPARATION ALIGNMENT

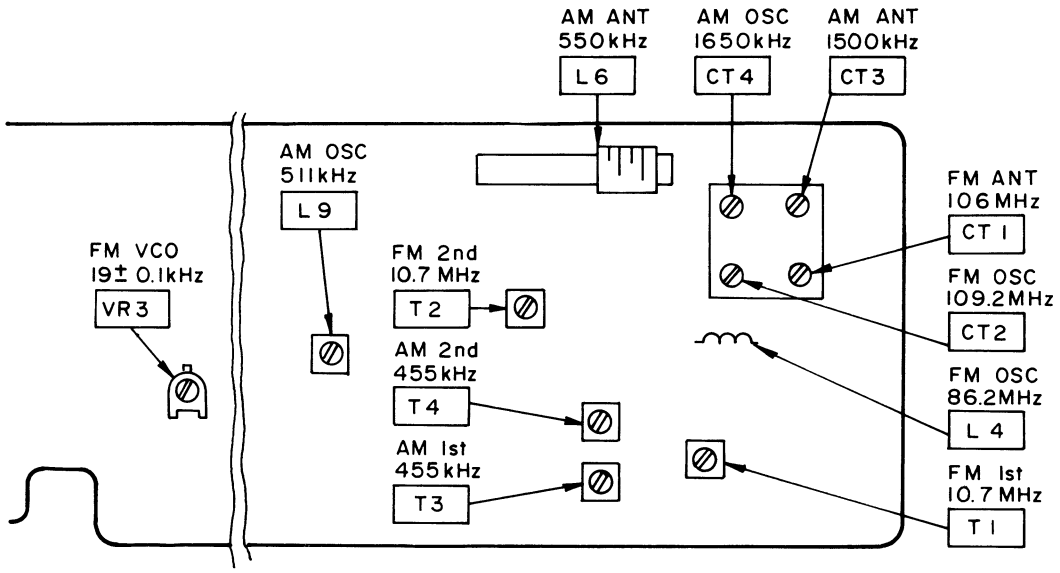
ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98MHz, 60dB Connect to test point ▼1 through FM dummy antenna. Negative side to test point ▼2.	▼6...(+) ▼8...(−)	VR3	19kHz	Adjust VR3, for 19kHz (±100Hz) reading on electronics counter.

■ TAPE ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (8kHz, −20dB)	Headphones Jack (32Ω)	Maximum output.	Azimuth screw	Playback mode FM Mode switch → Stereo (Refer to Fig. 4)
Tape Speed	QZZCWAT (3kHz)	〃	3000±90Hz	Motor Volume	Playback mode (Refer to Fig. 5)

■ ALIGNMENT POINTS

* Please refer to Circuit Board and Wiring Connection Diagram which is located test point.



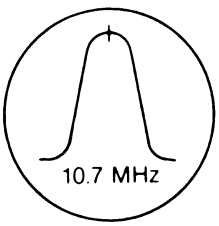


Fig. 2

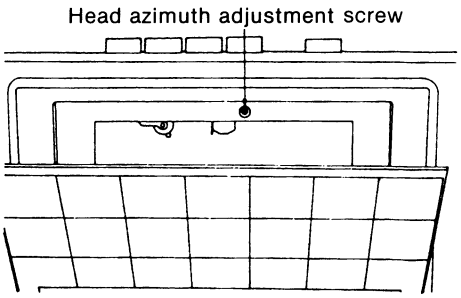


Fig. 4

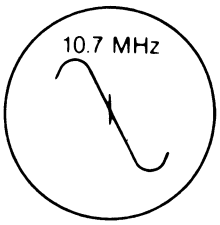


Fig. 3

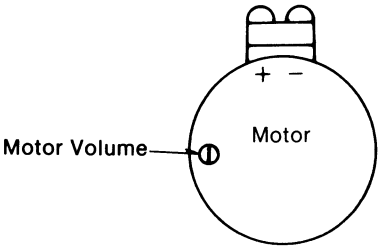
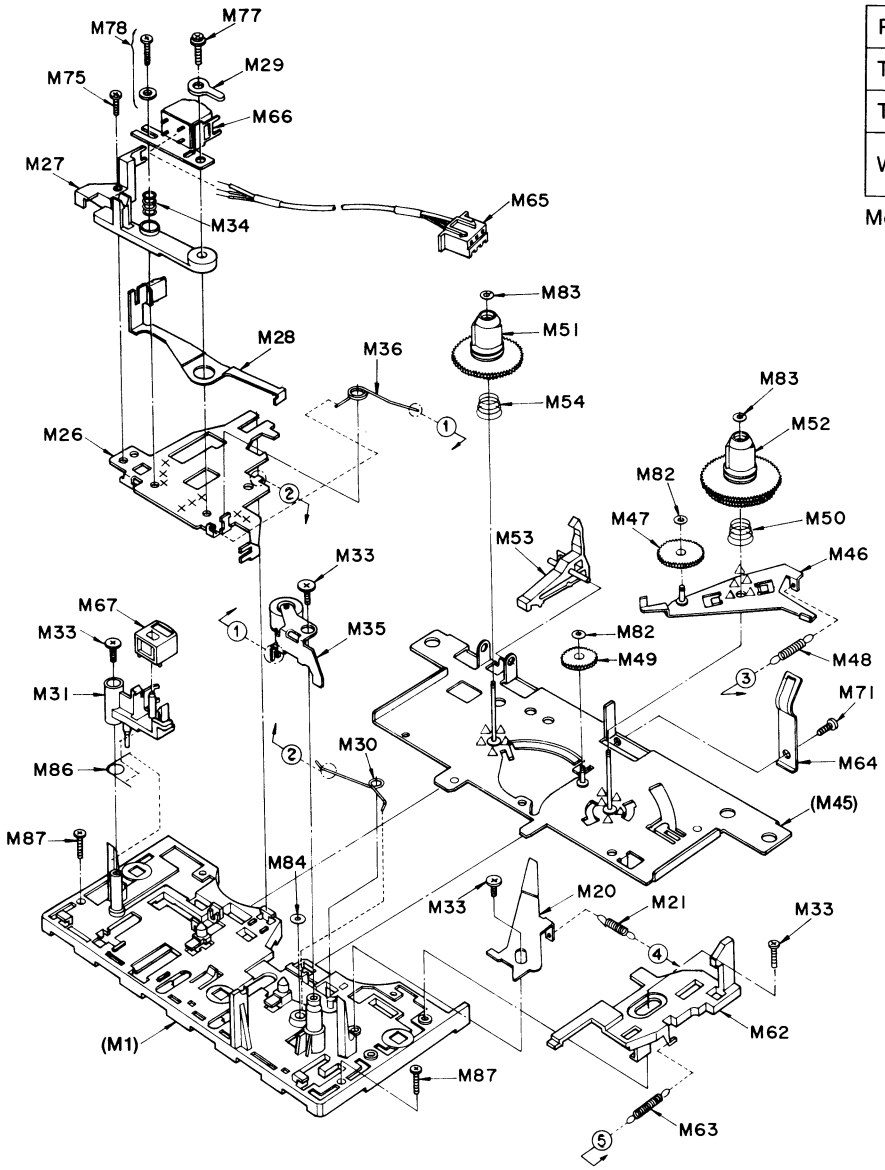


Fig. 5

D

MECHANISM PARTS LOCATION

(FRONT VIEW)

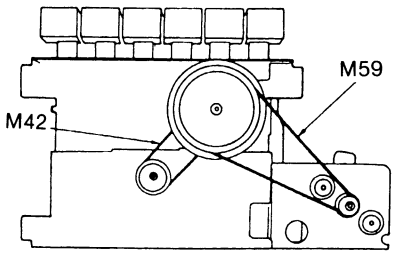


SPECIFICATIONS

Pressure of pressure roller	250~350g
Takeup tension	25~65g-cm
Tape speed fluctuation	±3%
Wow & flutter	Less than 0.2% (WRMS)

Mechanism Operation: Auto Stop

• BELT LOCATION



NOTES:

When changing mechanism parts, apply the specified grease to the area marked show in the drawing "Mechanism Parts Location".
"××" mark ...Floil G-488 [SZZ0L10] (Lubricating grease)
"△△" mark ...Silicone oil No. 4 [SZZ0L14] (Lubricating oil)

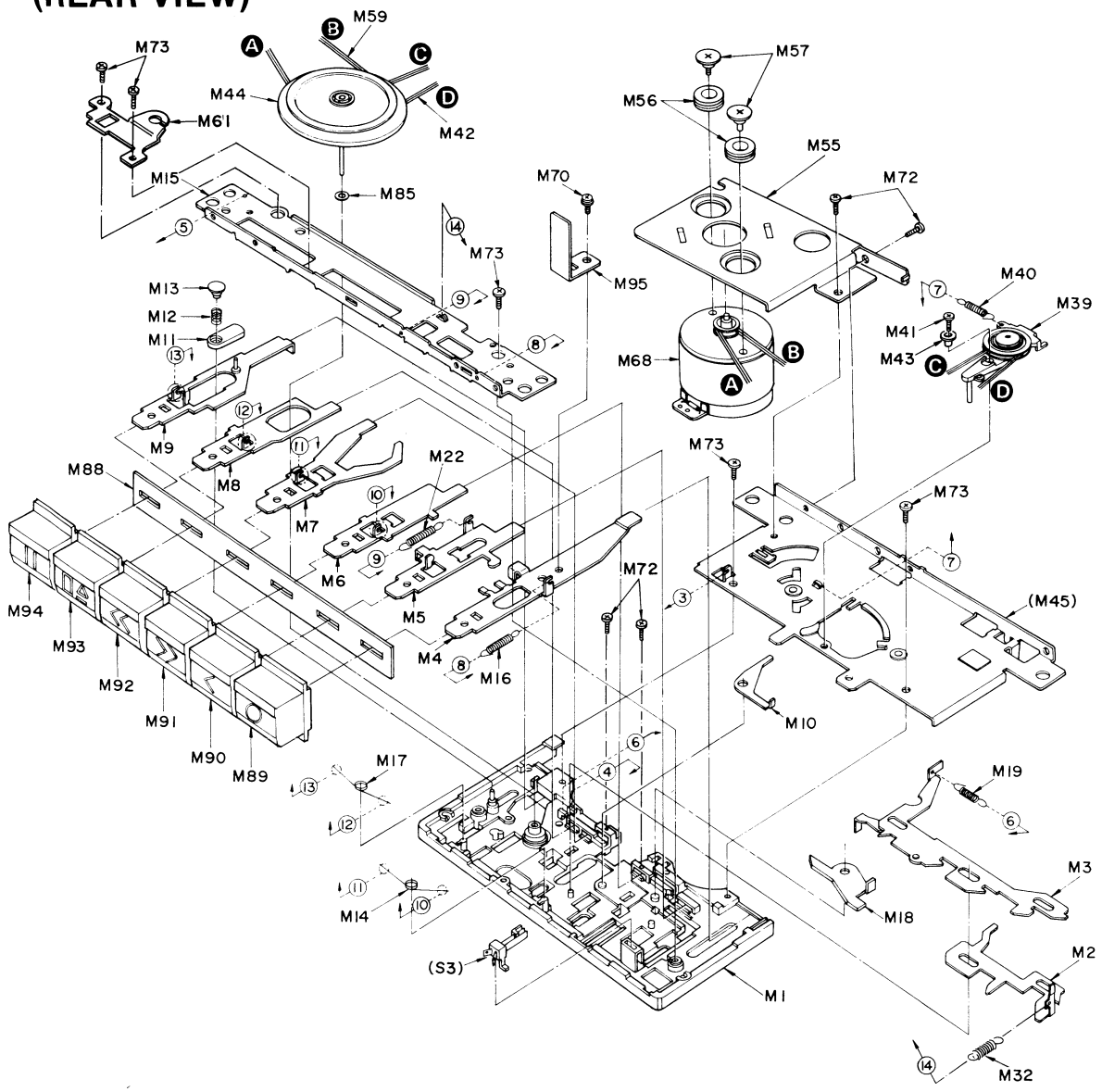
A	27 75 78 34 77 29 66 65 83 51	A
B	31 33 67 26 28 33 35 36 54 53 49 82 47 82 64 83 52 50 46 48 71	B
C	87 86 (1) 84 30 87 33 20 21 63 62 (45) 33	C

REPLACEMENT PARTS LIST • mark stands for that the parts are supplied in MESA.

Ref. No.	Part No.	Part Name & Description
		MECHANICAL PARTS
M 1	**RFU61Z**	Main Base Plate Ass'y
M 2	**RFY541Z**	Plate, Switch
M 3	**RFY552Z**	Button Actuator Ass'y
M 4	**RFY542Z**	Record Lever
M 5	**RFY543Z**	Playback Lever
M 6	**RFY544Z**	Rewind Lever
M 7	**RFY545Z**	F.F Lever
M 8	**RFY546Z**	Stop/Eject Lever
M 9	**RFY547Z**	Pause Lever (A)
M 10	**RFY548Z**	Lever, Rewind
M 11	**RFY420Z**	Pause Lever (B)
M 12	**RFS459Z**	Spring (Pause Lever)
M 13	**RFS536Z**	Stopper, Pause Lever
M 14	**RFS529Z**	Spring (F.F/REW Lever)
M 15	**RFU62Z**	Plate, Button Holding
M 16	**RFS463Z**	Spring (Record Lever)
M 17	**RFS462Z**	Spring (Stop/Eject • Pause Lever)
M 18	**RFX101Z**	Stopper
M 19	**RFS466Z**	Spring (Actuator)
M 20	**RFY549Z**	Lever, Auto
M 21	**RFS453Z**	Spring (Auto Lever)
M 22	**RFS530Z**	Spring (Button Lever)
M 26	**RFE227Z**	Panel, Head
M 27	**RFU39Z**	Head Base Ass'y
M 28	**RFY394Z**	Detector Arm Ass'y
M 29	**RFE228Z**	Terminal, Lug
M 30	**RFS531Z**	Spring (Head Panel)
M 31	**RFY397Z**	Erase Head Base
M 32	**RFS625Z**	Spring, Switch Actuator
M 33	**XSN3+6**	Screw (Erase Head Base Plate • Pinch Rolle etc. M'tg ⊕3×6)
M 34	**RFS447Z**	Spring, R/P Head Adjustment
M 35	**RFR29Z**	Pinch, Roller Ass'y
M 36	**RFS448Z**	Spring (Pinch Lever)
M 39	**RFK20Z**	F.F Crutch Ass'y
M 40	**RFS532Z**	Spring (Pulley Ass'y)
M 41	**RFE172Z**	Screw (F.F Cruth M'tg)
M 42	**RFB71Z**	Belt, Fast Wind
M 43	**RFX145Z**	Coller, RF Arm
M 44	**RFF37Z**	Flywheel Ass'y
M 45	**RFU40Z**	Sub Base Plate
M 46	**RFY550Z**	Plate Ass'y, Take Up Gear
M 47	**RFG61Z**	Gear, Fast Wind
M 48	**RFS450Z**	Spring (Take Up Gear Plate)
M 49	**RFG62Z**	F.F Gear
M 50	**RFS537Z**	Spring (Back Tension)
M 51	**RFJ50Z**	Supply Reel Table Ass'y
M 52	**RFJ44Z**	Take Up Reel Table Ass'y
M 53	**SMQ4778**	Rec Safety Lever
M 54	**RFS533Z**	Spring (Back Tension)
M 55	**RFD219Z**	Bracket, Motor
M 56	**RFi27Z**	Rubber, Motor
M 57	**RFE231Z**	Screw (Motor M'tg)
M 59	**RFB54Z**	Flywheel Belt
M 61	**RFD9011Z**	Holder, Flywheel Metal
M 62	**RFY551Z**	Lever, Eject Slide
M 63	**RFS454Z**	Spring (Eject Slide Lever)
M 64	**RFS534Z**	Spring (Cassette Pressure)
• M 65	**RZWXFM25MKSN**	Lead Wire, R/P Head
M 66	**RJH2E9Y**	R/P Head
M 67	**RJH5S3Z**	Erase Head
M 68	**RFM54Z**	DC Motor Ass'y
M 70	**RFE229Z**	Screw (Recording Spring M'tg ⊕2×3)
M 71	**XTN2+3B**	Screw (Cassette Retainer Spring M'tg ⊕2×3)

D

(REAR VIEW)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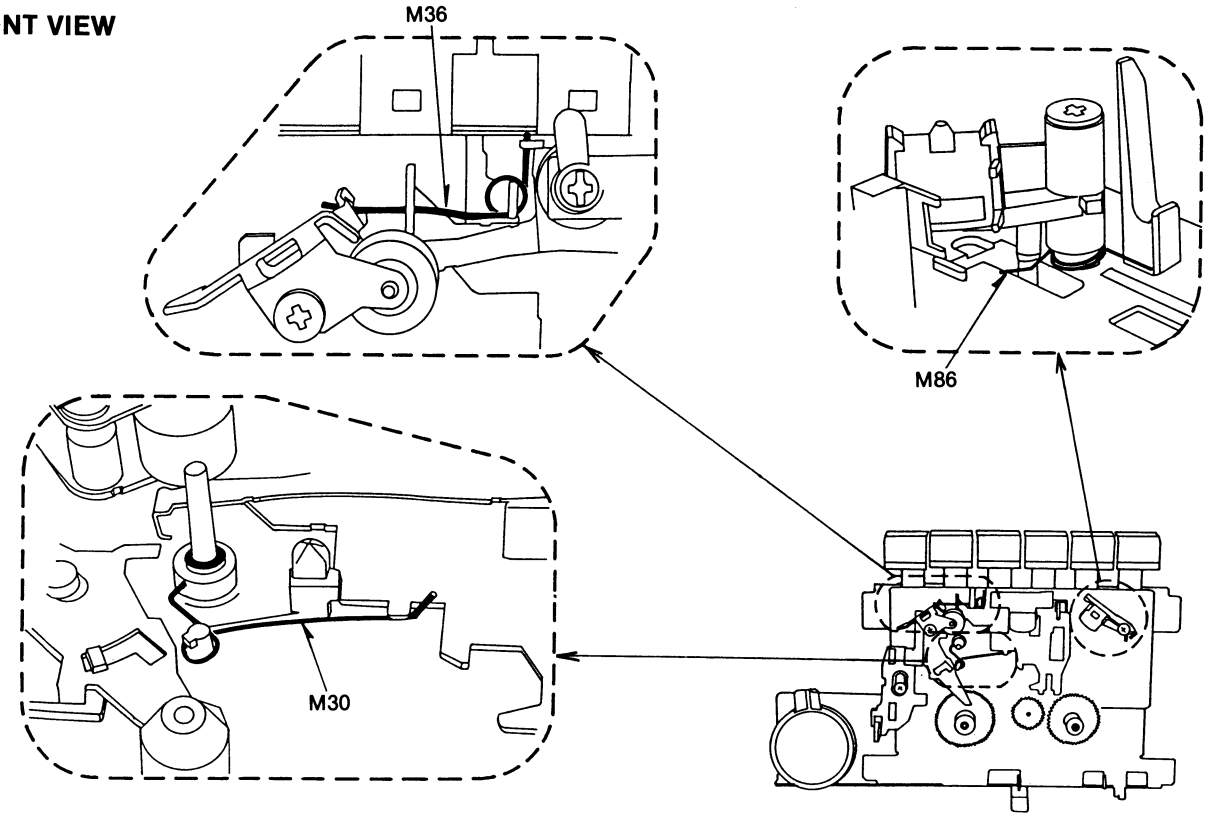
M32

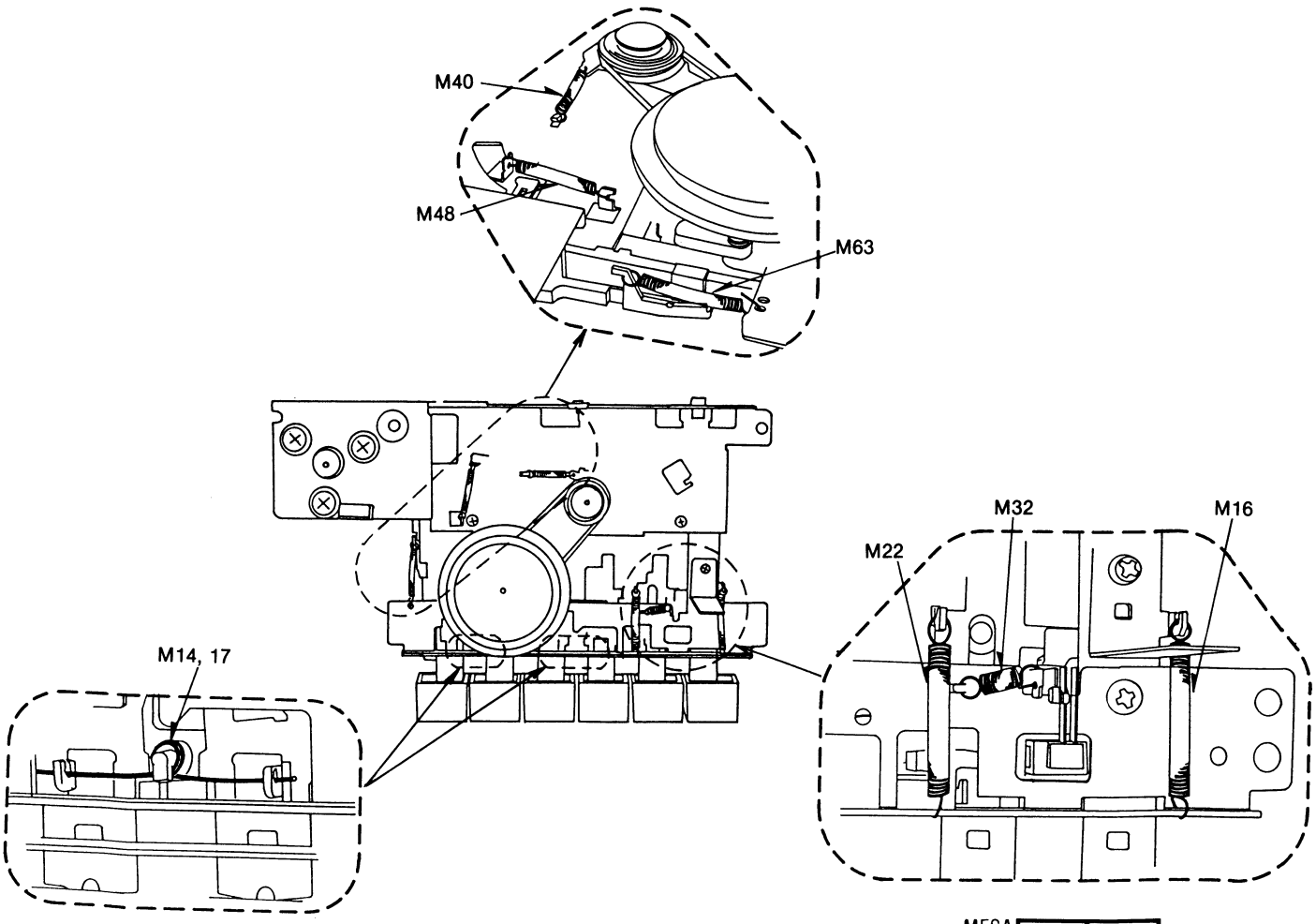
| | | |

SPRING LOCATION

• **FRONT VIEW**



• **REAR VIEW**



ORDER NO. GAD8702023S1
A1

Service Manual

Supplement

Radio Cassette

RX-FM15

(Black)

Stereo Radio Cassette Recorder

This is the Service Manual for the following areas.

M ···For U. S. A.

C ···For Canada.

- Please use this manual together with the service manual for model No. RX-FM15 order No. GAD8602509C1.
- This Service Manual indicates the main differences between; Original RX-FM15 and RX-FM15 (Supplement).

CORRECTION OF PARTS

■PARTS COMPARISON TABLE

1. • mark stands for that the parts are supplied in MESA.

Ref No	Description	Part Number		Remarks
		RX-FM15 (Original)	**RX-FM15 (Supplement)**	
• K14	Knob	RBN733Z1	**RBN733ZC-1**	Correction
K32	Spring	RUS534Y	**RUS528Y**	Correction
• P1	Gift Box	RPK2215ZA	**RPK2215Z**	Correction
C4, 8, 311	Ceramic Capacitor	ECKD1H103MD	**ECKD1H103ZF**	Correction
C25, 28, 38, 120, 220	Ceramic Capacitor	ECFT1E473MD	**ECFDD473KXY**	Correction
C39, 45, 46, 109, 209	Ceramic Capacitor	ECFT1E153MD	**ECFV1E153MD**	Correction
C313	Electrolytic Capacitor	ECEA1CU222	**ECEA1CS222**	Correction
C316	Electrolytic Capacitor	ECEA1CU471	**ECEA1ASS471**	Correction
IC1	IC	AN7205	**AN7205**	Japan Supplied
Q101, 201	TRANSISTOR	2SA733P1	**2SA733Q**	Correction
Q301	TRANSISTOR	2SC2001K1	**2SC2001L1**	Correction
D307	DIODE	RVDRD6R8EB1	**RVDRD6R8EB2**	Correction
L4	COIL	RLD4Y53W	**RLD4Y53**	Correction
S3	SWITCH	————	**RFA52Z**	Correction
J1	JACK	RJJ1A3Y	**RJJ1D27Z**	Correction
J2	JACK	RJJ1D27Z	**RJJ1A3Y**	Correction
M12	SPRING	RFS459Z	**RUXC34M**	Correction
M52	TAKE–UP REEL TABLE ASS'Y	RFJ44Z	**RFJ53Z**	Correction

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Victoria Industrial Park
Carolina, Puerto Rico 00630

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M C
Printed in Japan Ⓝ

ORDER NO. GAD8604403A1
A1

Service Manual

Radio Cassette

RX-FM15

FM-AM-FM Stereo Cassette Recorder

(Pink) (Violet)
(Blue) (Red)

- Please use this manual together with the service manual for model No. RX-FM15 (Black Type) order No. GAD8602509C1.
- Additions to the parts list due to cabinet color variations (Pink, Violet, Blue and Red) are indicated in this service manual.

This is the Service Manual for the following areas.

[M] ...For U.S.A.

[C] ...For Canada

Color Variation

Area	Color
[M]	Pink , Violet, Blue
[C]	Red

ADDITION OF PARTS

Notes:

1. The letter in round brackets in the Ref. No. column indicates the shipping destination. (M) ... For U.S.A. (C) ... For Canada.
2. The letter in square brackets in the Ref. No. column indicates the color of the product.
   [P] ... Pink Type, [V] ... Violet Type, [B] ... Blue Type, [R] ... Red Type
3. The letter in the circle after the part name indicates the color of the part. Ⓟ ... Pink, Ⓥ ... Violet, Ⓑ ... Blue, Ⓡ ... Red, Ⓦ ... White,
4. • marK stands for that the parts are supplied in MESA. Ⓚ ... Black,

Ref. No.	Description	Addition Part No.
•K1 (M) [P]	Front Cabinet Ass'y Ⓟ (for U.S.A.)	RYMXFM15M91
•K1 (M) [V]	Front Cabinet Ass'y Ⓥ (for U.S.A.)	RYMXFM15M92
•K1 (M) [B]	Front Cabinet Ass'y Ⓑ (for U.S.A.)	RYMXFM15M6
•K1 (C) [R]	Front Cabinet Ass'y Ⓡ (for Canada)	RYMXFM15MC2
•K2 (M) [P]	Rear Cabinet Ass'y Ⓟ (for U.S.A.)	RYFXFM15M91
•K2 (M) [V]	Rear Cabinet Ass'y Ⓥ (for U.S.A.)	RYFXFM15M92
•K2 (M) [B]	Rear Cabinet Ass'y Ⓑ (for U.S.A.)	RYFXFM15M6
•K2 (C) [R]	Rear Cabinet Ass'y Ⓡ (for Canada)	RYFXFM15MC2
•K5 (M) [P]	Battery Compartment Ass'y Ⓟ(for U.S.A.)	RYNXFM15M12
•K5 (M) [V]	Battery Compartment Ass'y Ⓥ(for U.S.A.)	RYNXFM15M13
•K5 (M) [B]	Battery Compartment Ass'y Ⓑ(for U.S.A.)	RYNXFM15M14
•K5 (C) [R]	Battery Compartment Ass'y Ⓡ(for Canada)	RYNXFM15MC11
•K14 (M)	Knob, Tuning Ⓦ (for U.S.A.)	RBN733Z2
•K14 (C)	Knob, Tuning Ⓚ (for Canada)	RBN733Z
•K20 (M) [P]	Arm, Handle Ⓟ (for U.S.A.)	RKX347Z92
•K20 (M) [V]	Arm, Handle Ⓥ (for U.S.A.)	RKX347Z93
•K20 (M) [B]	Arm, Handle Ⓑ (for U.S.A.)	RKX347Z6
•K20 (C) [R]	Arm, Handle Ⓡ (for Canada)	RKX347Z91
•K21 (M) [P]	Handle Ⓟ (fro U.S.A.)	RKX331Z96

Ref. No.	Description	Addition Part No.
•K21(M) [V]	Handle Ⓥ (for U.S.A.)	RKX331Z97
•K21 (M) [B]	Handle Ⓑ (for U.S.A.)	RKX331Z98
•K21 (C) [R]	Handle Ⓡ (for Canada)	RKX331Z95
•K34 (M)	Knob, Function Selector Ⓦ (for U.S.A.)	RBD371Z2
•K34 (C)	Knob, Function Selector Ⓚ (for Canada)	RBD371Z
•K35 (M)	Knob, Volume Ⓦ (for U.S.A.)	RBN670X4
•K35 (C)	Knob, Volume Ⓚ (for Canada)	RBN670X
•M89 (M)	Button, Record Ⓦ (for U.S.A.)	RBC718Y2
•M89 (C)	Button, Record Ⓚ (for Canada)	RBC718Y
•M90 (M)	Button, Playback Ⓦ (for U.S.A.)	RBC717Y2
•M90 (C)	Button, Playback Ⓚ (for Canada)	RBC717Y
•M91 (M)	Button, Rewind Ⓦ (for U.S.A.)	RBC716Y2
•M91 (C)	Button, Rewind Ⓚ (for Canada)	RBC716Y
•M92 (M)	Button, FF Ⓦ (for U.S.A.)	RBC715Y2
•M92 (C)	Button, FF Ⓚ (for Canada)	RBC715Y
•M93 (M)	Button, Stop/Eject Ⓦ (for U.S.A.)	RBC714Y2
•M93 (C)	Button, Stop/Eject Ⓚ (for Canada)	RBC714Y
•M94 (M)	Button, Pause Ⓦ (for U.S.A.)	RBC713Y2
•M94 (C)	Button, Pause Ⓚ (for Canada)	RBC713Y

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